

Use Attainability Analysis

for

WBID 3413 Horseshoe Creek

Submitted by
Tetra Tech, Inc

To
Missouri Department of Natural Resources
Water Protection Program

RECEIVED

APR 06 2005

Field Data Sheets for Recreational Use Stream Surveys

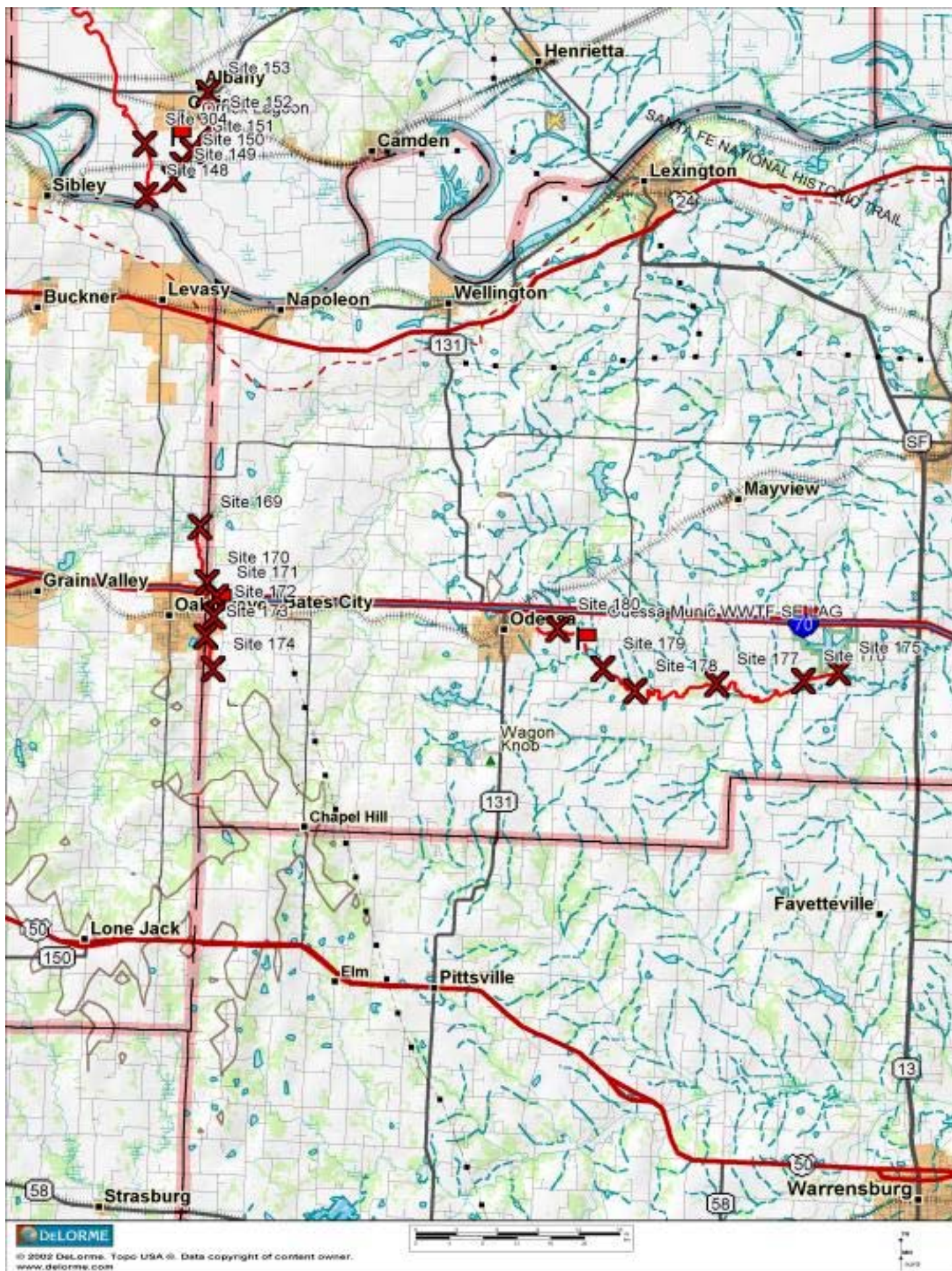
WATER PROTECTION PROGRAM

Data Sheet A - Water Body Identification

Water Body Name: (from USGS 7.5' quad) HORSESHOE CREEK: 169-174
8-digit HUC: 10300101
Missouri WBID #: 3413
County: LAFAYETTE
Upstream Legal Description:
Downstream Legal Description:
Upstream Coordinates: (UGS 84, ddd.ddddd) 38.98243 -094.10696
Downstream Coordinates: (UGS 84, ddd.ddddd) 39.03337 -094.11456
Discharger Facility Name(s): OAK GROVE S. WWTP
Discharger Permit Number(s): MD-0106259
Number of Sites Evaluated: 6
Name of Surveyor and Telephone Number: ADAM BETTIG: 410-356-8993
Organization: TETRA TECH INC.
Position: ASSOCIATE SCIENTIST

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam Bettig Date: 3/29/05



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>169</u>	Site Location Description: <u>② REDUCE CUT OF GRAVEL RD CUT OF H.</u>
Site GPS Coordinates: <u>39.02002/-094.06874</u>	
Date & Time: <u>3-19-05/10:30am</u>	Facility Name: <u>OAK GROVE SWAMP</u>
Personnel: <u>AVR, AME</u>	Permit Number:
Current Weather Conditions:	Weather Conditions for Past 7 days:
Photo Ids: Upstream: <u>24 on 1697 A</u> Downstream: <u>22 on 1697A</u> Other: <u>23 on 1697A SPAN</u>	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input checked="" type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>TRAPA</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Handwritten signature: Travis Baker 3/19/05

Stream Morphology:

Upstream View Physical Dimensions: .65, .6, .35, .45, .2

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>5m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.45m</u>	Max. Depth (ft): <u>0.75m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>Too slow to measure</u>	

Downstream View Physical Dimensions: .5, .5, .2, .3, .1 | 1m Ss, 7s, 8s
min

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>5m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.32m</u>	Max. Depth (ft): <u>0.55m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>Arm 0.15m/s</u>	

Substrate*: (These values should add up to 100%.)

<u>20</u> % Cobble	% Gravel	% Sand	% Silt	<u>80</u> % Mud/Clay	% Bedrock
--------------------	----------	--------	--------	----------------------	-----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Bright Green algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input checked="" type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam Rott Date: 3/19/05

Organization: Tt- Bt Position: Sci. I

Dr. Maria Huber 3-1805





Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 170	Site Location Description: @ BRIDGE ON DIRT ROAD NEAR HIGHWAY	
Site GPS Coordinates: 39.01881 / -94.11015		
Date & Time: 3-18-05 / 11:00am	Facility Name: OAK GROVE SWWTP	
Personnel: AVR, AMG	Permit Number:	
Current Weather Conditions:	Weather Conditions for Past 7 days:	
Photo Ids: Upstream: 26 1689A	Downstream: 25 1688A	Other: 27 1690A - CONSTRUCTION

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input type="checkbox"/> None of the above	<input checked="" type="checkbox"/> Other: TRASH DUMP

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

* Leaches in stream

* CONSTRUCTION: LAYING SEWER PIPES TO INCREASE CAPACITY @ OAK GROVE FACILITY.

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: TRASH	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: TRASH + CONSTRUCTION				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Down
Stream

Upstream View Physical Dimensions: 1, 2, 25, 2, 1

5, 5, 4, 5, 1, 1, 1, 1

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>3m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.17m</u>	Max. Depth (ft): <u>0.3m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.19m/s</u>		

Anti

Downstream View Physical Dimensions: 0.5, 1.5, 3.5, 3, 2.5

4.5, 4.5, 4.5, 1m, 1m, 1m

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>5m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.22m</u>	Max. Depth (ft): <u>0.4m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.25m/s</u>		

Substrate*: (These values should add up to 100%.)

% Cobble	<u>20</u> % Gravel	<u>50</u> % Sand	% Silt	<u>30</u> % Mud/Clay	% Bedrock
----------	--------------------	------------------	--------	----------------------	-----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Bright Green Algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input checked="" type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam Petty Date: 3/18/05

Organization: Te. B.R. Position: Sec. I.

Adam Petty 3-18-05





Field Data Sheets for Recreational Use Stream Surveys

RECEIVED

2005 MAY 23 PM 2: 58

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

WATER PROTECTION PROGRAM

Missouri WBID #: 170 Revisit	Site Location Description: Unnamed road off of 40 & 70	
Site GPS Coordinates: N 39.01880 W 094.11023	Facility Name: Oak Grove Sp WWTP	
Date & Time: 4-22-05 9:31	Permit Number:	
Personnel: CB ELY	Weather Conditions for Past 7 days:	
Current Weather Conditions: Cloudy 54°		
Photo Ids: Upstream: 1782A 058	Downstream: 1782A 051	Other:

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

There was trash through out stream

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Construction site	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of site segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions: in meters 0.20, 0.04, 0.26, 0.22, 0.14

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>6.5 m</u>	Length (ft): <u>20 m</u>	Avg. Depth (ft): <u>0.172 m</u>	Max. Depth (ft): <u>0.26 m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>3m³ / 4.66s = 0.64 m³/s</u>		

Downstream View Physical Dimensions: in meters: 0.10, 0.30, 0.28, 0.18, 0.12

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>3.5 m</u>	Length (ft): <u>20 m</u>	Avg. Depth (ft): <u>0.196 m</u>	Max. Depth (ft): <u>0.30 m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>3m³ / 6.66s = 0.45 m³/s</u>		

Substrate*: (These values should add up to 100%.)

<u>0</u> % Cobble	<u>20</u> % Gravel	<u>40</u> % Sand	<u>20</u> % Silt	<u>20</u> % Mud/Clay	<u>0</u> % Bedrock
-------------------	--------------------	------------------	------------------	----------------------	--------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 04/22/05

Organization: TEMA TECH INC. Position: ASSOCIATE SCIENTIST

Edy 4-22-05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>171</u>	Site Location Description:
Site GPS Coordinates: <u>39.01247 / 094.10184</u>	<u>@ BRIDGE ON PAVED RD THAT PARALLELS HIGHWAY 70</u>
Date & Time: <u>3-18-05 / 11:30am</u>	Facility Name: <u>DAUGRAVE SWWTP</u>
Personnel: <u>AVR, AMB</u>	Permit Number:
Current Weather Conditions: <u>Sunny; 40°</u>	Weather Conditions for Past 7 days:
Photo Ids: Upstream: <u>29 or 1692A</u> Downstream: <u>28 or 1691A</u> Other: <u>30 or 1693A = ALCAE IN R/O</u>	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

THAT H2O IS CROSSL

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input checked="" type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>TRASH</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Aman Huse 3-18-05

Stream Morphology:

Upstream View Physical Dimensions: 1, 2, 2, 2, 1

1m 2s, 2s, 3s
1m-1m

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>1.5m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.16m</u>	Max. Depth (ft): <u>0.22m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.43m/s</u>	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>4m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.4m</u>	Max. Depth (ft): <u>0.6m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>Too slow to measure</u>	

Substrate*: (These values should add up to 100%.)

% Cobble	<u>30</u>	% Gravel	<u>30</u>	% Sand	<u>40</u>	% Silt	% Mud/Clay	% Bedrock
----------	-----------	----------	-----------	--------	-----------	--------	------------	-----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Bright green algae

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

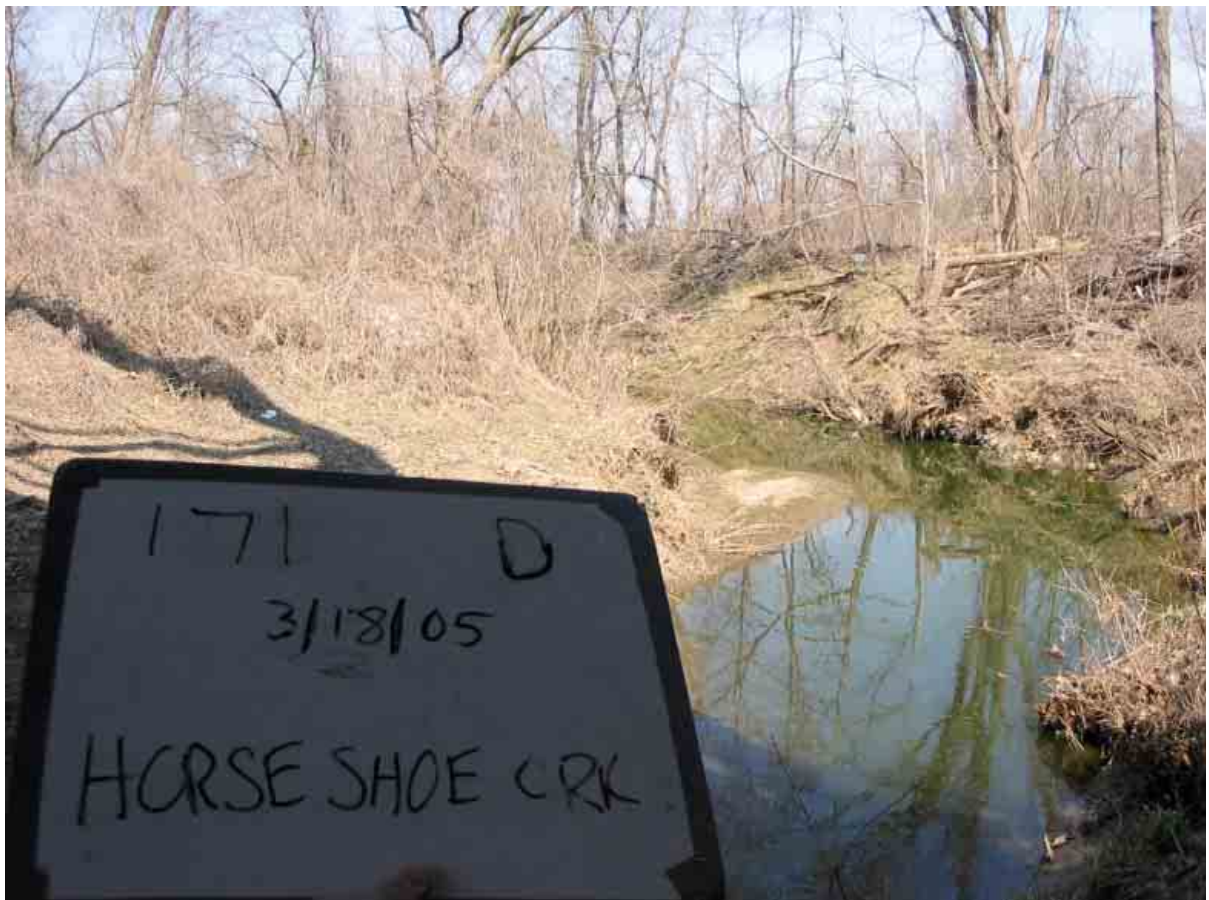
*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam Betty Date: 3/18/05

Organization: TE-BET Position: SCS, J.

Adam Betty 3-18-05





Stream Morphology:

Upstream View Physical Dimensions: 9, 8, 6, 5, 45

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>6m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.65m</u>	Max. Depth (ft): <u>1m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>Too slow to measure</u>	

Downstream View Physical Dimensions: 2, 3, 25, 15, 05

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>6m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.19m</u>	Max. Depth (ft): <u>0.3m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.12 m/s</u>	

Substrate*: (These values should add up to 100%.)

% Cobble	<u>60</u> % Gravel	<u>20</u> % Sand	% Silt	<u>20</u> % Mud/Clay	% Bedrock
----------	--------------------	------------------	--------	----------------------	-----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Flocculent Algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>Flocculent Algae</u>
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam K. Ellis Date: 3/18/05

Organization: TE-BLT Position: Sec. I.

Adam K. Ellis 3-18-05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 172	Site Location Description:
Site GPS Coordinates: 39.004571 - 094.10053	BRIDGE ON GARDENBURG RD.
Date & Time: 3-18-05 / 12:30 PM	Facility Name: OAK GROVE SWTP
Personnel: AVR, AMU	Permit Number:
Current Weather Conditions: SUNNY, 50°	Weather Conditions for Past 7 days:
Photo Ids: Upstream: 32 or 1095A	Downstream: 31 or 1094A Other:

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input checked="" type="checkbox"/> Fishing - AVR	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Dead fish in creek.
~~ASSUMED ACTIVITY BASED ON LOCATION - CONT. AVR~~

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

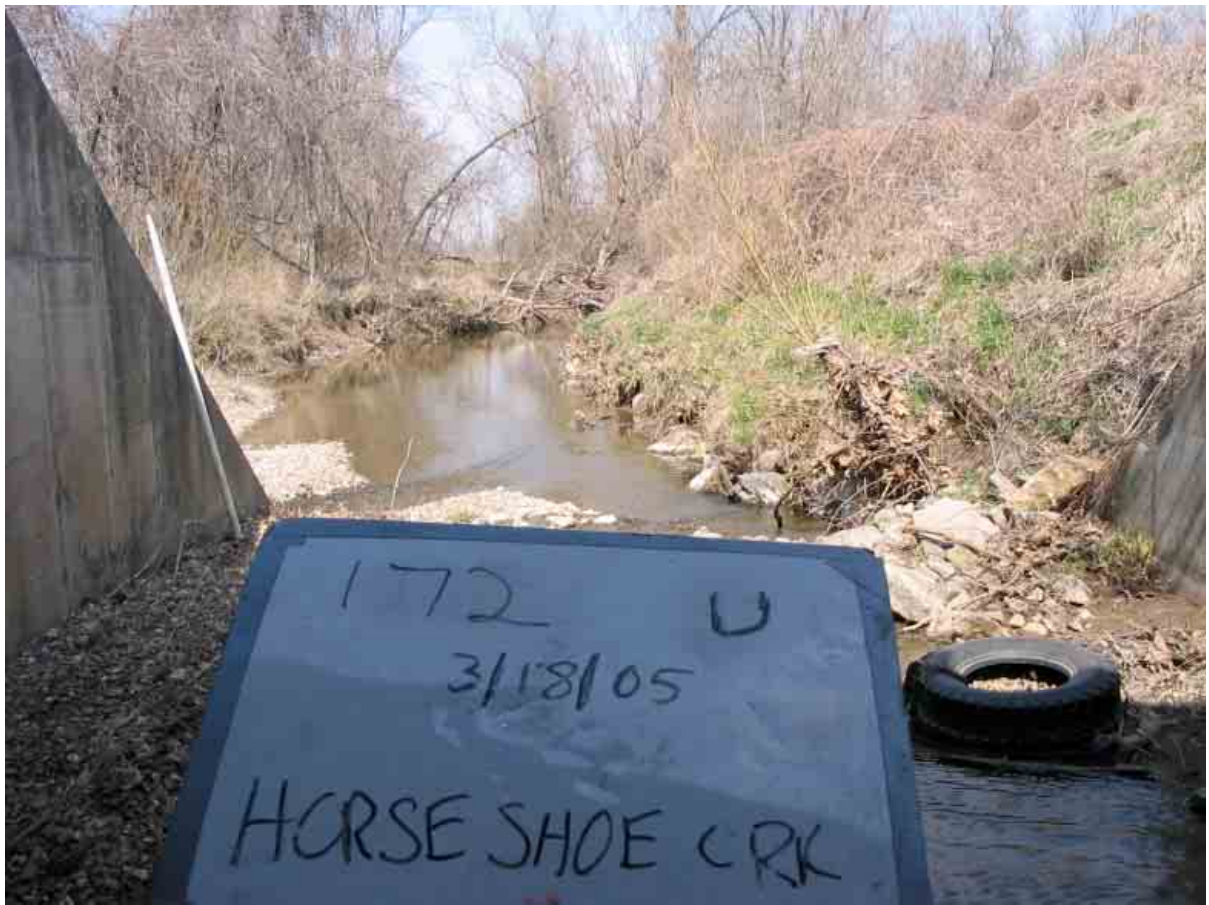
Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.


3-18-05



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 173	Site Location Description: SITE [] WATER @ CUL- ^(SP) ASACH @ END OF ROAD; ATV TRAIL CROSSING
Site GPS Coordinates: 38.916531-94.11091	
Date & Time: 3-18-05 / 1:00pm	Facility Name: CORK CREEK JUMP
Personnel: AVR, AMG	Permit Number:
Current Weather Conditions: Sunny / 60's	Weather Conditions for Past 7 days:
Photo Ids: Upstream: 34 or 1167A Downstream: 33 or 1696A Other: 35 or 1697A = ATV TRAIL CROSSING	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input checked="" type="checkbox"/> Fishing AVR	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Assumed Activities based on location - cork AVR

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input checked="" type="checkbox"/> Urban areas / SUBURBAN	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input checked="" type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Amani Holbe 3-18-05

1m less 55

Stream Morphology:

Upstream View Physical Dimensions: 05, 1, 1, 1, 07, 05

<input checked="" type="checkbox"/> Riffle	Width (ft): <u>5.5m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.08m</u>	Max. Depth (ft): <u>0.1m</u>
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.18 m/s</u>	

Downstream View Physical Dimensions: 1, 19, 2, 25, 1

55, 7, 85 1m 1m 1m

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>4m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.17m</u>	Max. Depth (ft): <u>0.25m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Estimated (ft ³ /sec): <u>0.15 m/s</u>	

Substrate*: (These values should add up to 100%.)

<u>0</u> % Cobble	<u>80</u> % Gravel	% Sand	% Silt	% Mud/Clay	<u>0</u> % Bedrock
-------------------	--------------------	--------	--------	------------	--------------------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam Kelly Date: 3/18/05

Organization: TE-BCT Position: Sec. 5.

Adam Kelly 3-18-05





Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

(Acc. 6/14)

Missouri WBID #: <u>174</u>	Site Location Description:
Site GPS Coordinates: <u>38.982431 - 094.10696</u>	<u>BRIDGE NEAR KIRK STONE CREEK EXPOSED</u>
Date & Time: <u>3-18-05 1:40pm</u>	Facility Name: <u>CHICKASAW SWWTP</u>
Personnel: <u>AVR, AMG</u>	Permit Number:
Current Weather Conditions: <u>Sunny - 50°</u>	Weather Conditions for Past 7 days:
Photo Ids: Upstream: <u>37 or 170A</u> Downstream: <u>36 or 169A</u> Other: <u>38 or 170A - SPRAY PAINT</u>	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input checked="" type="checkbox"/> Fishing <u>AVR</u>	<input type="checkbox"/> None of the above	<input checked="" type="checkbox"/> Other: <u>Spray Paint</u>

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

ABANDONED ACTIVITY BASED ON CONDITIONS AND LOCATION AVR

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input checked="" type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Spray paint under bridge</u>				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that affect another use.

Andrew Galt 3-18-05

Stream Morphology:

Upstream View Physical Dimensions: 2, .1, .15, .15, .1

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>5.5m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.14m</u>	Max. Depth (ft): <u>0.2m</u>
<input checked="" type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>Too slow to measure</u>		

Downstream View Physical Dimensions: 2, .3, .4, .4, .2

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>4m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.3m</u>	Max. Depth (ft): <u>0.45m</u>
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>Too slow to measure</u>		

Substrate*: (These values should add up to 100%.)

<u>80</u> % Cobble	<u>20</u> % Gravel	% Sand	<u>20</u> % Silt	% Mud/Clay	% Bedrock
--------------------	--------------------	--------	------------------	------------	-----------

Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Algae</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Adam Pilling Date: 3/18/05

Organization: Te-Set Position: Sec. I.

A Marie Foster 3-18-05



